

REMARKS

Reconsideration is respectfully requested in light of the foregoing amendments and remarks that follow.

Claims 2, 3 and 5-13 are before the Examiner. Claim 1 has been withdrawn from consideration by the Examiner as directed to a non-elected invention pursuant 37 CFR 1.142(b). The claims have been amended to recite the numerical identifier, appearing in the specification and respective figures for each element. Further, claims 2 and 3 have been amended to more clearly identify the structural elements of the tool- sealing bell (35), mold floor (33) and shoulder (27) present on the interior surface of the “shaping parts” associated with the blank punch (22) - and their interaction, which produce the container leg, pinched edge (39). This interaction of elements occurs along the vertical axis of the blank punch (22). The axis is shown in each of figures 1-6. The movement restricted along this vertical axis allows a series of molding tools to be arranged in relatively narrow rows since no space has to be allocated for transverse, radial motion along the vertical axis. Both claims 2 and 3 reflect this design. Claim 2 additionally provides for structure(s) that permits water cooling.

Claims 2-10, 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over UK Patent (2,079,668) in view of Merklinghaus et al. (4,932,856). Applicants respectfully traverse.

The instant arrangement of elements permits the container to be formed by only axial movement of the relevant elements- a sealing bell (35), mold floor (33) and their interaction with the plastic film (3) and shoulder (27) of the interior surface associate with the blank punch (22). See figure 3 for example. Element (33) forms the base. The container “legs” (31) are from the cooperative interaction between elements (35) and (27). A circumferentially closed crush edge forms the solid support leg.

In contrast, the “crush edge” (the “sealed” legs 20) of UK Patent (2,079,668) results from axial acting element (52) and transverse acting elements (40) and (40a). Since both motions have to be consider (see figures 4-6 of UK Patent (2,079,668)) in placing the tool in a row, multi-row designs, the relatively compact rows possible for the instant forming tool are not possible

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for the UK tool.¹ The molding tools of the UK Patent (2,079,668) and the claimed invention clearly operate in distinct manners.

In addition, the inclusion of water cooling means (see claim 2) allows the claimed molding tool to operate at a higher cycle number rates without a loss in product quality.

As to both claims 2 and 3, the overall design also minimizes part wear and tear due to the fewer modes of action required. Operational lifetime of the molding tool is increased.²

There is no suggestion in the UK patent of a need to limit the operating elements to “axial” movement alone. Nor is there a suggestion in Merklinghaus et al (4,932,856) of a design like that now claimed nor is there a teaching in Merklinghaus et al of a problem associated with having elements cooperating in transverse and axial movement. There is not even a suggestion in Merklinghaus of a need to have tools in “compact” rows. There is no motivation or guidance provided in Merklinghaus as to how one could modify the UK device to arrive at the one as claimed.

While Merklinghaus et al. (4,932,856) do mention water cooling, the reference does not provide guidance as to how one could adapt their water cooling system design to the UK tool which would arrive at the one described in claim 2.

¹ As noted above the UK Patent forms the base and the crimp edge by employing a multi-part, as a rule two-part, design and are displaced radial to the shaping die axis for mold removal purposes. The tool according to UK patent can only be embodied as a single-row tool. It employs structural components (40) provided with drives (42), orthogonal to the movement direction of the break-down die 60, which extend far enough in this direction to prevent the adding of several container rows in the plastic foil throughput direction. The UK patent has movable parts (40, 54) for realizing the molding and removal from the mold which parts move in flat guides one above the other. Flat guides have a tendency to jam, particularly if they move one above the other. In addition, they must be lubricated for maintaining their function. If lubricant ends up on the formed containers, these are not usable.

² The claimed molding tool does not have transverse acting moving parts for creating the form contour of the hollow bottom. The claimed molding tool employs a static, one-piece design- the crimp edge and the form contour in the region of the hollow bottom to form the “sealed” legs. Accordingly, is not susceptible to problems and does not require maintenance like that required by the UK patent molding tool. The sliding pieces (40) and the locking slider (54) in the cited reference move with every cycle and are therefore subject to wear and tear. The movement requires time, which has a negative effect on the clocking time, meaning the cycle number is reduced.

With regard to the additional elements required by the dependent claims, both the U.K Patent and Merklingshaus et al. fail to teach these elements let alone make them obvious. The piston (44) of claim 5 can be displaced inside a bore (47). The ejection plate (45) of claim 6 is attached to all rods (32). Claim 7 describes an embodiment where all rods (32) are rigidly connected to a support plate (52). (This causes movement relative to the ejection plate (45)). Claim 8 describes a piston (53) connected to the support plate which moves inside bore (54) of the cap (55). Claim 9 describes molding parts comprising a cutting die (39) with cutting edge (40) and a molding insert (56).

In summary, the teachings of the UK Patent are incomplete and not suggestive of the claimed molding design, requiring only axial motion to formed the container base and “sealed “ legs. The secondary reference is not suggestive of this arrangement. Basing the rejection on obviousness, does not remedy the deficiencies of the primary reference. There is no suggestive teaching. Withdrawal of the rejection is respectfully requested since a proper prima-facie case has not been established.

Claims 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over the UK patent ('668) in view of Merklingshaus et al ('856) as applied to claims 2-10, 12 and 14 above and further in view of Yaita et al. (4,758,394). Applicants respectfully traverse.

Yaita et al. have been considered. The teachings provided therein do not remedy the deficiencies noted above.

Yaita et al. merely mention stainless steel amongst a myriad of other possible metals and alloys. There is no description of hardened stainless steel. There is no reason apparent from the Office Action as to why one would be motivated to select a stainless steel. Further, not all stainless steels can be hardened by heat treatment. There has been no explanation provided which suggests that the stainless steel taught has been hardened by heat treatment. It is not "certain" that Yaita et al. inherently teach a harden steel as a possibility. An inherent teaching is not normally relied upon to establish obviousness.

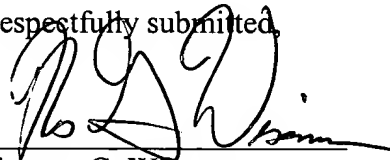
Withdrawal of the rejection is respectfully requested.

In view of the foregoing amendments and remarks, the application is believed to be in condition for allowance and a notice to that effect is respectfully requested.

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Should the Examiner not find the Application to be in allowable condition or believe that a conference would be of value in expediting the prosecution of the Application, Applicants request that the Examiner telephone undersigned Counsel to discuss the case and afford Applicants an opportunity to submit any Supplemental Amendment that might advance prosecution and place the Application in allowable condition.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'T. G. Wiseman', written over a horizontal line.

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